

Binary Formats

Blocks, Files, Folders, Volumes and Disks
in the OpenTrace engine

Block (volcopy/transform.hpp)

- File aligned, variable length with maximum. (Default 1MB E.G. 1024*1024)
- A block hash is always prefixed with the Data Domain. (IMPORTANT security feature)
- Hash of block is called the Key. (Hash means SHA256 or SHA512)
- The Key is iterated to make the Id. (iterate means the hash is hashed again with same algorithm)
- The block is compressed with LZMA. The last 4 bytes are the length of the original block.
- If the last four bytes define a length that is the same as the buffer then compression failed.
- The compressed data and length are encrypted with AES256. The Key and IV are generated from a SHA512 hash of the Key.
- The encrypted block is hashed again, this hash is call the Check.
- The final block has the Id and Check appended to it.
- This block can be indexed and validated without knowing it's contents.

